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AUTHOR Sawyer, Judy Parsons
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ABSTRACT

The Family Drawing Depression Scale (FDDS) was created by Wright and McIntyre to provide a clear and reliable scoring method for the Kinetic Family Drawing as a procedure for detecting depression. A study was conducted to confirm the value of the FDDS as a systematic tool for interpreting family drawings with populations of depressed individuals. The FDDS was administered pre- and post-treatment to patients (N=19) at a multimodal, multidisciplinary spinal pain clinic. Family drawings were scored by two doctoral students in psychology and by a master's degree level registered art therapist. The results revealed that 11 of the 15 items of the FDDS significantly differentiated between depressed and nondepressed patients. Ten subjects received FDDS ratings strongly suggestive of depression; nine subjects received ratings not suggestive of depression. These diagnostic placements were consistent with clinical impressions made by pain clinic staff members. Scores on 8 of the 15 items significantly improved in the depressed group at completion of treatment. Post-treatment results were remarkably similar to those recorded in a study of depressed subjects at a private psychiatric clinic. These findings have implications for art therapy. (Author/NB)

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FDDS: A Cross Validation Study

Judy Parsons Sawyer

North Texas State University

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Abstract

The FDDS was administered pre and post treatment to patients at a multi-modal, multi-disciplinary spinal pain clinic. Eleven of the 15 items significantly differentiated between depressed and non-depressed patients ($p < .05$). Scores on 8 of the 15 items significantly improved in the depressed group at the completion of treatment ($p < .01$). Post-treatment results were remarkably similar to those recorded in a study of depressed subjects at a private psychiatric clinic. Implications for art therapy are included.

FDDS: A Cross Validation Study

The Family Drawing Depression Scale (FDDS) was created by Wright and McIntyre (1982) in hopes of providing a clear and reliable scoring method for the Kinetic Family Drawing (KFD) as a procedure for detecting depression. Development of the FDDS was based on a review of literature of the KFD (Burns and Kaufman, 1970, 1972; McPhee, 1974; Myers, 1978; O'Brian and Patten, 1974; Sims, 1974) and on the art productions of depressed patients (Sandman, Cauthen, Kilpatrick, and Deabler, 1968; Simon, 1979; Wadeson, 1971, 1975; Wadeson and Carpenter, 1976).

The 15 items of the FDDS include 10 subjective and 5 objective subscales. All items are rated using a 5 point scale.

The selection of subjective items was strongly influenced by Wadeson's findings that the non-standardized, free art drawings of depressed patients tend to exhibit hopelessness, isolation, little use of color, emptiness, lack of detail, and poor expenditure of effort (Wadeson, 1971, 1975; and Wadeson and Carpenter, 1976). Items on sexual differentiation (libidinal investment), organization (concentration), interest in the environment, energy and hopelessness were also included as additional reflections of the

core symptoms of depression. Biological markers such as sleep disorder and appetite loss were reasoned to be unlikely representations in a family drawing and no attempt was made to include these symptoms in the assessment instrument.

The five objective subscales were also influenced by Wadeson's work. The number of colors used, the distance between the artist and family members, and the amount of empty space are all measured. The size of self as compared to others is included in the objective subscales as a possible indicator of self-esteem.

Wright and McIntyre (1982) used the FDDS in a study at a university affiliated private psychiatric hospital in Louisville, Kentucky, in order to test the hypotheses that family drawings of depressed patients can be reliably differentiated from normal controls and that family drawing ratings improve as depression improves. All 15 items of the FDDS were found to be significantly different in depressed patients as compared to normal controls. However, only 10 of the items were significantly improved in depressed patients after treatment. FDDS ratings were also found to correlated with the scores of depressed patients and normal controls on the Zung Self Rating Depression Scale.

The present study was developed to confirm the value

of the FDDS as a systematic tool for interpreting family drawings with populations of depressed individuals. The link between pain and depression is generally recognized and has been supported by numerous research findings. Chronic pain has, in particular, been frequently linked with depressive symptomatology. Lindsay and Wychoff (1981) found 261 or 87% of 300 pain center patients referred for diagnosis and treatment of their pain syndromes were depressed. Other studies which have found symptoms of depression in chronic pain patients include Kraemlinger, Swanson, and Marata (1983), Sternbach, Wolff, Murphy, and Akeson (1973), and Sternbach (1974). The connection between depression and chronic pain is further supported by research showing an increased familial incidence of affective disorders in relatives of chronic pain patients (Blumer and Heilbronn, 1982); the prevalence of biological markers of depression in chronic pain (Blumer, Zorick, and Heilbronn, 1982); the frequent use of antidepressants to allieviate pain (France and Wolkind, 1974; Lee and Spence, 1977; Duthie, 1977; Ward, Bloom, and Freidel, 1979; Blumer, Heilbronn, and Pedraza, 1980; and Lindsay and Wychoff, 1981), and the finding of a significant correlation between pain severity and negative mood factor among 70 pain patients (Shacham, Dar, and Clellan, 1984). The reduction in pain achieved by some individuals at pain clinics,therefore, may be theorized as due to the

the reduction of their depression.

The present study was designed to test the following hypotheses: (a) that family drawings of patients at a chronic pain clinic will reveal individuals with clearly defined depression, (b) that the family drawing ratings of the individuals who received scores indicating depression will improve at the completion of their pain clinic program, and (c) that the improvement in family drawing ratings by the pain patients whose pre-treatment scores are indicative of depression will have a post-treatment pattern similar to that of individuals successfully treated for depression.

Method

The study was conducted at the Spinal Pain Clinic at the Dallas Rehabilitation Institute in Dallas, Texas, a multi-modal, multi-disciplinary unit designed to rehabilitate chronic pain patients and to increase their coping skills. Modalities utilized include physical therapy, occupational therapy, art therapy, biofeedback, pain counseling, and group psychotherapy. Behavioral and cognitive approaches are most commonly used for the treatment of depression. Family education is provided, and group therapy sessions are open to family members. The treatment program normally lasts 3 weeks.

Nineteen individuals participated in the study. Eight of the participants were male, and eleven were female. The ages ranged from 21 to 54. Educational levels ranged from 7th grade to completion of a trade school. Most patients had dropped out of school but had received a G.E.D.

The FDDS was administered by an experienced examiner. Subjects were presented with a plain sheet of 8½ by 11 inch white paper, seven pencils (orange, brown , green, blue, red, yellow, and black), and an eraser. The standard instructions of "draw a picture of your family members doing something" were given. The technique was administered at the beginning and conclusion of the treatment program.

Family drawings were scored by two doctoral students in psychology at North Texas State University and a master's degree level registered art therapist. Each rater evaluated each drawing. Each rater was blind to the others' ratings. No training sessions or discussions between raters took place. The raters were not familiar with any of the study participants, the pain clinic program, or the purpose of the study. Inter-rater reliability was measured by product moment correlations in total FDDS scores. The correlations between raters 1 and 2 ($r=.79$), rater 1 and 3 ($r=.77$), and raters 2 and 3 ($r=.96$) all reached high levels of significance ($p<.001$).

Results

Utilizing Wright and McIntyre's recommended cut off score of 35 and above as indicative of depression, four males and six females were identified as receiving ratings strongly suggestive of depression. The mean FDDS rating of this group was 40.367 $\pm$ 4.94. Four males and five females received FDDS ratings that were not suggestive of depression. Their mean FDDS rating was 23.07 $\pm$ 5.52. These diagnostic placements were consistent with clinical impressions of the pain clinic staff members. Placement into the depressed group was not significantly related to age or sex.

The Mann Whitney U Test for independent groups was utilized for statistical comparison of the groups labeled depressed and non-depressed based on FDDS ratings and supported by clinical impressions. Item analysis disclosed 11 of the 15 items were significantly different ($p<.05$) in depressed patients as compared to non-depressed patients. Number of colors, isolation of self (objective and subjective), isolation of family (subjective), amount of detail, sexual differentiation, amount of energy observed in the subject's posture and activity, amount of energy observed in the portrayal of the family's activity, degree of interest in the environment exhibited by the artist, degree of interest in the environment exhibited by the family, and depiction of hopelessness were significantly different in

the two groups.

Organization, size of figures, size of self versus others, and amount of empty space in the drawing did not significantly differentiate between depressed and non-depressed patients at the pain clinic. These findings might be interpreted as suggesting that some pain clinic patients without significant depressive tendencies may, however, be experiencing problems with self-esteem, concentration abilities, and motor inhibition.

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INSERT TABLE ONE

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A comparison of the pre and post scores of both groups of patients was performed utilizing the Wilcoxon matched-pairs signed rank tests. No significant improvement in the FDDS ratings in the group labeled non-depressed occurred. A comparison of the pre and post scores of the depressed patients revealed a significant improvement in FDDS ratings at the completion of the treatment ($p < .01$). An item analysis of the FDDS scores of this group at the beginning and at the end of the pain clinic program disclosed eight items which were significantly improved in depressed patients after treatment. Scores on size of self versus others, isolation of self (objective and subjective, isolation of family (subjective), amount of energy portrayed in the family's activities, interest in the

environment exhibited by self, interest in the environment exhibited by the family, and amount of empty space utilized were significantly better. These same eight items plus the items depicting degree of energy in the artist-patient's self-portrayal and the extent of hopelessness conveyed in the drawing were the items showing treatment effects in the Wright and McIntyre study of patients being treated for depression at a private clinic (1982). The item related to the energy level of the artist-patient's self-depiction approached significance in the present study ($p < .06$).

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Discussion

Results from this study suggest that the FDDS is a useful tool for assessing the presence and changes in depression in pain clinic patients. Isolation of self and family, low energy levels in self and family, lack of interest in the environment by self and family, and hopelessness were common themes in the drawings of individuals entering the pain clinic with both pain and depression. After treatment, these individuals depicted themselves and their families as more involved, more energetic, and more interested in the environment. A post-treatment increase in the size of self as compared to others in the drawing also suggests that an increase in self-esteem occurred. Post-treatment score patterns were remarkably similar

to those of individuals treated for depression at a private psychiatric clinic (Wright and McIntyre, 1982).

Information obtained from the drawings regarding the patient's images of himself, his environment, his family relationship, etc., and how these factors could interact with the individual's pain experience were fruitful topics for therapy sessions. Neurotic fallacies evident in the drawings such as Ellis' (1958) description of tendencies to avoid rather than face life difficulties and self-responsibilities, to need someone stronger than oneself on which to rely, to require love or approval from everyone, to believe human happiness can be achieved by inertia and inaction, or to feel that human happiness is externally caused were also confronted in group and individual therapy sessions utilizing cognitive behavioral therapy techniques. Art therapy activities emphasized enhancing the self-image, energy level, self-awareness, and interest in the environment of the patients. Wright and McIntyre (1982) found that the material from the FDDS was also of therapeutic value in a family systems therapy program. Thus, further research with the FDDS as both a diagnostic and therapeutic tool does appear warranted.

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TABLE ONE

F.D.D.S. Item Analysis
Depressed Patients vs. Non-depressed Patients

Scale Item	Significance
1. Number of Colors	$p < .05$
2. Organization	N.S.
3. Size of Figures	N.S.
4. Size of Self vs. Others	N.S.
5. Isolation of Self - Obj.	$p < .025$
6. Isolation of Self - Subj.	$p < .005$
7. Isolation of Family- Subj.	$p < .005$
8. Detail	$p < .01$
9. Sex Differentiation	$p < .025$
10. Energy - Self	$p < .01$
11. Energy - Family	$p < .05$
12. Interest - Self	$p < .005$
13 Interest - Family	$p < .005$
14. Hopelessness	$p < .01$
15. Empty Space	N.S.

All p values based on one-tailed tests.

TABLE TWO

F.D.D.S. Item Analysis
Depressed Patients
Time One vs. Time Two

Scale Item	Significance
1. Number of Colors	N.S.
2. Organization	N.S.
3. Size of Figures	N.S.
4. Size of Self vs. Others	$p<.05$
5. Isolation of Self - Obj.	$p<.025$
6. Isolation of Self - Subj.	$p<.005$
7. Isolation of Family - Subj.	$p<.01$
8. Detail	N.S.
9. Sex Differentiation	N.S.
10. Energy - Self	N.S.
11. Energy - Family	$p<.01$
12. Interest - Self	$p<.025$
13. Interest - Family	$p<.01$
14. Hopelessness	N.S.
15. Empty Space	$p<.005$

All p values based on one-tailed tests.